ERRATUM

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Sugar utilization in the hyperthermophilic, sulfate-reducing archaeon Archaeoglobus fulgidus strain 7324: starch degradation to acetate and CO_2 via a modified Embden-Meyerhof pathway and acetyl-CoA synthetase (ADP-forming)

Published online: 27 February 2002

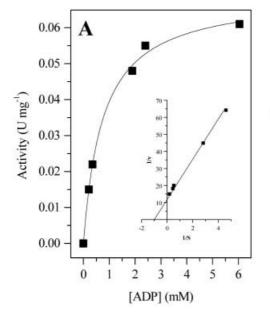
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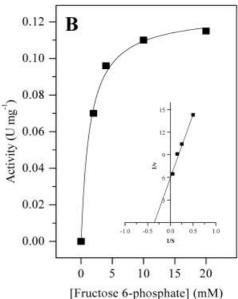
Arch Microbiol (2001) 176:329-338

The Michaelis-Menten plots and the corresponding Line-weaver-Burk plots shown in Fig. 2A and B were unfortunately incorrect. Furthermore, in Fig. 3, the stoichiometric

factors for ADP and ATP in reaction 9, and for ADP, Pi, and ATP in reaction 11, should read 2 instead of 1. The corrected figures appear below:

Fig. 2A, B ADP-dependent 6-phosphofructokinase activity at 50 °C in cell extracts of starch-grown A. fulgidus strain 7324. Rate dependence on A the ADP concentration and B the fructose 6-phosphate concentration. Inserts Double reciprocal plots of the rates vs the corresponding substrate concentrations





The online version of the original article can be found at http://dx.doi.org/10.1007/s002030100330

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Fig. 3 Proposed pathway of starch degradation - via glucose - to acetate and CO2 in A. fulgidus strain 7324. The enzymes of the modified Embden-Meyerhof pathway (enzymes 1-9) and of pyruvate conversion to acetate and CO₂ (enzymes 10-11) are shown. 1 ADP-dependent hexokinase, 2 glucose-6-phosphate isomerase, 3 ADP-dependent 6-phosphofructokinase, 4 fructose-1,6-bisphosphate aldolase, 5 triosephosphate isomerase, 6 glyceraldehyde-3-phosphate: ferredoxin oxidoreductase, 7 mutase, 8 enolase, 9 pyruvate kinase, 10 pyruvate:ferredoxin oxidoreductase, 11 ADP-forming acetyl-CoA synthetase. Fd_{ox} oxidized ferredoxin, Fd_{red} reduced ferredoxin

Glucose

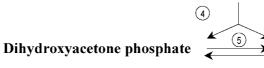
Glucose 6-phosphate



Fructose 6-phosphate



Fructose 1,6-bisphosphate



Glyceraldehyde 3-phosphate

$$\begin{array}{c}
2 \operatorname{Fd}_{\mathrm{ox}} \\
2 \operatorname{Fd}_{\mathrm{red}}
\end{array}$$

 $2 \times 3\text{-Phosphoglycerate}$

2× 2-Phosphoglycerate

2× Phosphoenolpyruvate

2× Pyruvate

2× Acetyl-CoA

①
$$2 \text{ CoA} \longrightarrow \frac{2 \text{ ADP} + 2 \text{ P}_i}{2 \text{ ATP}}$$

2× Acetate